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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: SETH, JAYSHREE

Application No.: 10/686123

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Filed: October 14, 2003

Group Art Unit 1771

Title: DISPOSABLE CLEANING IMPLEMENT

**BRIEF ON APPEAL**Mail Stop: Appeal Brief-Patents  
Commissioner for Patents  
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Alexandria, VA 22313-1450**CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR § 1.8(a)]**

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January 26, 2007 *I. Hass*  
Date Signed by: Irina Hass

Dear Sir:

This is an appeal from the Office Action mailed on October 2, 2006, in light of the Advisory Action mailed December 8, 2006, finally rejecting claims 1, 3 and 5-42.

- ☐ Please charge the fee provided in 37 CFR § 41.20(b)(2) to Deposit Account No.

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No. 13-3723.

A Notice of Appeal in this application was filed on December 19, 2006, and was received in the USPTO on December 19, 2006.

Appellants request the opportunity for a personal appearance before the Board of Appeals to argue the issues of this appeal. The fee for the personal appearance will be timely paid upon receipt of the Examiner's Answer.

**REAL PARTY IN INTEREST**

The real party in interest is 3M Company (formerly known as Minnesota Mining and Manufacturing Company) of St. Paul, Minnesota and its affiliate 3M Innovative Properties Company of St. Paul, Minnesota.

**RELATED APPEALS AND INTERFERENCES**

Appellants are unaware of any related appeals or interferences.

**STATUS OF CLAIMS**

Claims 1, 3 and 5-42 are pending. Claims 1, 3 and 5-42 stand rejected.

**STATUS OF AMENDMENTS**

No amendments have been filed after the final rejection.

**SUMMARY OF CLAIMED SUBJECT MATTER**

Claims	Exemplary Support
1. A cleaning sheet comprising a composite of a protrusion containing backing element	Page 3 line 26 , Figs 3b --4d, example 1
embedded within a fibrous substrate,	Page 3, lines 18-19, Figs 5-6, example 1
the composite having a first face and a second face	Figs 5-6, Example 1
and the protrusion containing backing element having a first face and a second face with protrusions extending from at least one face of the backing element	Pages 8 --12, Figs 3-6, Example 1
such that these protrusion extend out so as to form at least in part a first face of the	

<p>composite,</p> <p>wherein the protrusion containing backing element is embedded within the fibrous substrate such that individual fibers forming the fibrous substrate are present on both faces of the backing element so that the individual fibers forming the fibrous substrate form at least in part the first and second face of the composite,</p> <p>the protrusion containing backing element is formed of substantially continuous first and second sets of intersecting strand elements extending in at least two directions</p> <p>where at least one set of strand elements have integral extrusion formed protrusions extending from at least one face of the strands,</p> <p>the two sets of strands being separated from one another</p> <p>and where individual fibers forming the fibrous substrate are located between the strands.</p>	<p>Page 3 line 32- page 4 line 2, Figs 5-6, Example 1</p> <p>Page 6 line 28-32 Figs 5-6, Example 1</p> <p>Page 8 line 21- Page 12 line 9, Figs 3-6, Example 1</p> <p>Page 8 line 21- Page 12 line 9, Figs 3-6, Example 1</p> <p>Page 8 line 21- Page 12 line 9, Figs 3-6, Example 1</p> <p>Figs 5-6, Example 1</p>
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**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

**§ 103 Rejections**

Claims 1, 3 and 5-42 stands rejected under 35 USC § 103(a) as being unpatentable over Kacher et al. (U.S. Pub. 2003/0049407) in view of Schortmann et al. (U.S. 4,537,819) and Schlegel, Jr. et al. (U.S. 3,638,270).

**ARGUMENT**

The invention as claimed relates to cleaning sheet having as a backbone an open net structure as shown in Figs 3-6 that is formed of intersecting strands.

“the protrusion containing backing element is formed of substantially continuous first and second sets of intersecting strand elements extending in at least two directions”

The strands are provided with protrusions that project from one face of the net structure or the formed cleaning sheet. The net structure is surrounded by fibers where the fibers are between the strands,

“where individual fibers forming the fibrous substrate are located between the strands” and fibers are present on both faces of the net structure and hence the cleaning sheet.

“wherein the protrusion containing backing element is embedded within the fibrous substrate such that individual fibers forming the fibrous substrate are present on both faces of the backing element so that the individual fibers forming the fibrous substrate form at least in part the first and second face of the composite”

Schortmann et al teaches a **continuous** foam material that is hydroentangled with a nonwoven web. The hydroentangling process is used to force fibers into the foam material structure and also to break up the foam cell walls<sup>1</sup>. Hydroentangling is used by Schortmann et al

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<sup>1</sup> Hydroentangling is a process where multiple streams or jets of high pressure water are used to entangle fibers in a loose web of fibers into a coherent nonwoven fabric( See “Spunlace(hydroentanglement). Kamath et al April 2004, submitted herewith). Schortmann using this hydroentangling process to do two additional tasks at the same time break up the structure of a foam and force sufficient numbers of fibers into the broken foam structure to bond the fibrous web to the surface of the foam.

in a relatively nontraditional manner to join a one or two fibrous webs to a specific foam type material.

Schortmann et al as such teaches no features of the claimed protrusion containing backing element (it teaches a foam) or such a backing embedded within a fibrous web to form a cleaning sheet. What Schortmann et al teaches is the hydroentangling process used by applicants to form their product and a fibrous web, but nothing more.

Katcher et al teaches **discrete** discontinuous hook strips **adhesively** attached to a substrate which is among other things a mitt., note pages 8 and 9. However carded webs are also mentioned which appears to be the thread used to tie these two disparate constructions together.

Katcher et al however again fails to teach the features of the claimed protrusion containing backing element. At best Katcher et al. teaches discrete isolated strands having protrusions which certainly is not “substantially continuous first and second sets of intersecting strand elements”. Discrete isolated strands as taught in Katcher et al would be excluded by applicants claim language. Katcher et al also attaches their strips to the backings by adhesive and fails to teach any of the claimed features of the protrusion containing backing element being embedded within a fibrous web.

The rejection appears to be that Schortmann teaches the hydroentangling process is an accepted alternative to adhesive attachment and if one where to use the hydroentangling process to attach Katcher’s **discrete** discontinuous hook strips to a nonwoven that one would end up with applicants claimed cleaning sheet. This is seriously erroneous in at least two fundamental respects:

1. The **discrete** discontinuous hook strips of Katcher are not the claimed;

Applicant’s claim

“the protrusion containing backing element is formed of substantially continuous first and second sets of intersecting strand elements extending in at least two directions”

2. the hydroentanglement process is not a alternative to adhesive attachment.

Hydroentangling is a violent chaotic process used to take fibers and jumble them together so as to take an otherwise weak web and give it strength. In certain unique circumstances such as that in Schortmann et al the hydroentanglement process can also be used to join two webs together. Hydroentanglement is not at all a universal method of attachment such as is adhesive

bonding. It is disingenuous to make such a broad generalization based on the limited special circumstance use of hydroentangling in Schortmann et al. Hydroentangling can be used to join a fibrous web to other substrates in unique circumstances such as in Schortmann et al but it is not a substitute for adhesive attachment. There is only the examiners unsupported conclusiary statement to that effect.

In fact if one were to try and hydroentangle the discrete hook strips of Kacher et al as per Schortmann et al the result would be the chaos that hydroentangling is designed to create. Hydroentangling is a high energy physical redistribution of fibers. The discrete hook strips of Kacher et al would act just like big fibers. The violent chaotic process of hydroentagling would simple move and twist the disconnected discrete hook strips of Kacher et al within the fibers of the hydroentangled fibrous web to which it would be attached. Kacher et al. in contrast wants to carefully place hook strips in a regular array on a web or mitt or the like so the hook projections face outward. Trying to do this by hydroentangling is impossible with Kacher et al's discrete hook strips. The end result would be to destroy the functionality of the Kacher et al product. Why would someone of skill in the art want to do that?

Applicants avoid this issue by using a dimensionally stable structure of "substantially continuous first and second sets of intersecting strand elements", which structure is not taught in Kacher et al. Kacher et al has discrete strips, zones or the like of protrusions with intervening zones free of protrusions (paragraphs 118-125). The lack of this claimed structural feature is not commented on in the outstanding rejection., except possibly with use of the third reference Schlegel et al.

Schlegel et al however just teaches a monofilament woven material where a pile 14 is woven into a backing 11 and 12 and cut forming bristles which is then used as a scrub. It is unclear how this reference relates to the proposed combination of Kacher et al with Schortmann et al. Schlegel et al. requires the monofilaments to be woven into a backing (col. 2 lines 3-10) not adhesively secured strips as in Kacher et al or a hydroentangle foam sheet as in Schortmann et al.

It would also appear from the rejection that the examiner also suggests taking the Kacher et al products and attaching a nonwoven on top of the Kacher et al protrusions. This again would have the same problems as discussed above if one where to use hydroentangling as taught by Schortmann et al. Alternatively if adhesive attachment was used, as taught by Kacher et al., the

likely effect would be to simply mask the projections on the hook strips of Kacher et al destroying the functionality of Kacher et al's product. It is unclear why the examiner is suggesting this would be done in Kacher et al in any event other than searching for another unsupported path to applicants claimed invention. If a nonwoven is used as the backing in Kacher et al, the spacing required by Kacher et al between the hook strips would make this nonwoven backing available for its potential cleaning abilities. . As such there is simply no reason to try and imbed the hook strips of Kacher et al into a nonwoven as per Schortmann et al as the properties Schortmann et al is looking to obtain are already present in the structures suggested by Kacher et al. Namely when a nonwoven backing is selected in Kacher et al the intervening zones of the nonwoven backing free of protrusions are freely available for trapping dust, and the like, generated by the protrusions when wiped across a surface.

Attached is a quote from a recent USPTO Board of Appeals cases Ex parte: Neelakantan Sundaresan (Appeal No. 2006-1342; Application No. 09/488,471).

"To reach a proper conclusion under 35 U.S.C. § 103, the decision maker must step backward in time and into the shoes worn by [a person having ordinary skill in the art] when the invention was unknown and just before it was made. In light of *all* the evidence, the decision maker must then determine whether the claimed invention as a whole would have been obvious at *that* time to *that* person. The answer to that question partakes more of the nature of law than of fact, for it is an ultimate conclusion based on a foundation formed of all the probative facts.

The test for obviousness is based on the claimed invention as a whole and not upon mere combination of prior art references. Creative Pioneer Products Corp. v. K Mart Corp., 1987 WL 54482 (S.D. Tex), 5 USPQ2d 1841 (DC S.Texas 1987).

The presence or absence of a motivation to combine references in an obviousness determination is a pure question of fact. In re Gartside, 203 FJd 1305, 1316,53 USPQ2d 1769, 1776 (Fed. Cir. 2000). The question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. In re Beattie, 974 F.2d 1309, 1311-12,24 USPQ2d 1040,1042 (Fed. Cir. 1992). Evidence of a suggestion, teaching or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. In

re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617.”

The Federal Circuit is clear that all changes over the art must be considered no matter if they may seem at their face “minor” or “simple”, it is still required that “the prior art provides (a) teaching or suggestion to one of ordinary skill in the art to make the changes” In *re Chu* 66 F.3d 292, 298-99 (Fed. Cir. 1995).

The test for obviousness can not be that the examiner can find most of the features of the claimed invention in desperate prior art references and

There is nothing in the art of record that would suggest the combination proposed by the examiner and if done it is submitted that the result would be to simple destroy the functionality of Kacher et al while still leaving one of skill in the art in possession of a cleaning sheet having the features claimed by applicants.

For the foregoing reasons, appellants respectfully submit that the Examiner has erred in rejecting this application. Please reverse the Examiner on all counts.

Respectfully submitted,

January 26, 2007

Date

By:

William J. Bond, Reg. No.: 32,400  
Telephone No.: 651-736-4790

Office of Intellectual Property Counsel  
3M Innovative Properties Company  
Facsimile No.: 651-736-3833



**CLAIMS APPENDIX**

1.(Previously Presented) A cleaning sheet comprising a composite of a protrusion containing backing element embedded within a fibrous substrate, the composite having a first face and a second face and the protrusion containing backing element having a first face and a second face with protrusions extending from at least one face of the backing element such that these protrusion extend out so as to form at least in part a first face of the composite, wherein the protrusion containing backing element is embedded within the fibrous substrate such that individual fibers forming the fibrous substrate are present on both faces of the backing element so that the individual fibers forming the fibrous substrate form at least in part the first and second face of the composite, the protrusion containing backing element is formed of substantially continuous first and second sets of intersecting strand elements extending in at least two directions where at least one set of strand elements have integral extrusion formed protrusions extending from at least one face of the strands, the two sets of strands being separated from one another and where individual fibers forming the fibrous substrate are located between the strands.

2. (Canceled)

3. (Original) The cleaning sheet of claim 1 wherein the protrusion containing backing element comprises discrete protrusion containing strands.

4. (Canceled)

5.(Previously Presented) The cleaning sheet of claim 1 wherein the strand elements extend linearly in at least the at least one direction.

6.(Previously Presented) The cleaning sheet of claim 1 wherein the strands are mutually parallel and extend in the longitudinal direction of the composite.

7.(Original) The cleaning sheet of claim 1 wherein the fibrous substrate is a nonwoven fibrous substrate.

8.(Original) The cleaning sheet of claim 7 where in the nonwoven fibrous substrate has a basis weight of from 10 to 500 g/m<sup>2</sup>.

9.(Original) The cleaning sheet of claim 7 wherein the nonwoven fibrous substrate is substantially unbonded by secondary bonding means.

10.(Original) The cleaning sheet of claim 7 wherein the nonwoven fibrous substrate is an unbonded carded nonwoven substrate.

11.(Original) The cleaning sheet of claim 7 wherein the composite is an elastic composite.

12.(Original) The cleaning sheet of claim 1 wherein the composite protrusions are 0.10 to 6 mm.

13.(Original) The cleaning sheet of claim 1 wherein the protrusions are formed of a thermoplastic polymer.

14.(Original) The cleaning sheet of claim 13 wherein the protrusions are formed of polyolefin, polystyrenes, polyesters or polyurethanes, polyvinyl chloride and/or mixtures thereof.

15.(Original) The cleaning sheet of claim 14 wherein the thermoplastic polymer further comprises a tackifying resin, a plasticizer, a diluent, a stabilizer, an antioxidant, a colorant or a filler or combinations thereof.

16.(Previously Presented) The cleaning sheet of claim 7 wherein the second set of strands extends in a direction transverse to the first set of strands and the two sets of strands are joined at their crossover points.

17.(Original) The cleaning sheet of claim 16 wherein said second set of strands are mutually parallel and have a first face and a second face and two substantially parallel side faces and are substantially coextensive.

18.(Original) The cleaning sheet of claim 16 wherein said second set of strands second faces are attached to said first set of oriented strands at their crossover points.

19.(Original) The cleaning sheet of claim 16 wherein said first set of oriented strands occupy a first planar cross-sectional area in the thickness direction of the netting and said second set of oriented strands occupy a second planar cross-sectional area in the thickness direction of the netting.

20.(Original) The cleaning sheet of claim 19 wherein said first and second planar cross-sectional areas are substantially mutually exclusive and abutting.

21.(Original) The cleaning sheet of claim 16 wherein said second set of strands have a substantially rectilinear cross-section.

22.(Original) The cleaning sheet of claim 16 wherein said second set of strands are linear.

23.(Original) The cleaning sheet of claim 21 wherein adjacent strands of said second set of strands have a substantially identical cross-sectional shape in said first direction.

24.(Original) The cleaning sheet of claim 16 wherein said second set of strands have surface structures on said first faces of the strands.

25.(Original) The cleaning sheet of claim 24 wherein said surface structures are stems extending upward.

26.(Original) The cleaning sheet of claim 25 wherein said stem structures have protrusions projecting in at least one direction.

27.(Original) The cleaning sheet of claim 26 wherein said protrusions extend in the direction of the second set of strands.

28.(Original) The cleaning sheet of claim 26 wherein said protrusions extend in two or more directions and form a mushroom.

29.(Original) The cleaning sheet of claim 16 wherein said first set of strands have surface structures on said second face of said strands.

30.(Original) The cleaning sheet of claim 29 wherein said surface structures are stems extending upward.

31.(Original) The cleaning sheet of claim 30 wherein said stem structures have protrusions projecting in at least one direction.

32.(Original) The cleaning sheet of claim 31 wherein said protrusions extend in a direction perpendicular to said first direction.

33.(Original) The cleaning sheet of claim 16 wherein said first and second set of strands are integrally formed.

34.(Original) The cleaning sheet of claim 33 wherein the thermoplastic polymer further comprises a tackifying resin, a plasticizer, a diluent, a stabilizer, an antioxidant, a colorant or a filler or combinations thereof.

35.(Original) The cleaning sheet of claim 1 wherein there is an additional functional foraminous layer entangled with the fibrous substrate.

36.(Original) The cleaning sheet of claim 1 wherein the nonwoven is formed of natural fibers.

37.(Original) The cleaning sheet of claim 1 wherein the nonwoven is formed of synthetic fibers.

38.(Original) The cleaning sheet of claim 1 wherein the protrusions are present from about 5 to 80 percent of the surface area of the fibrous substrate.

39.(Original) The cleaning sheet of claim 38 wherein the protrusions are present from about 15 to 60 percent of the surface area of the fibrous substrate.

40.(Original) The cleaning sheet of claim 1 wherein the number of protrusions is from 1 to 1,000 per square centimeter.

41.(Original) The cleaning sheet of claim 40 wherein the number of protrusions is from 20 to 50 per square centimeter.

42.(Original) The cleaning sheet of claim 40 wherein the fibrous substrate is coated or impregnated with an additive.

**EVIDENCE APPENDIX**

None.

**RELATED PROCEEDINGS APPENDIX**

None.